UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P O Box 1450
Alexandria, Virginia 22313-1450
www uspto gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,099	01/16/2004	Paul Marcius Butterfield	117435	4975

27074 7590 02/22/2010
OLIFF & BERRIDGE, PLC.
P.O. BOX 320850
ALEXANDRIA, VA 22320-4850

EXAMINER	
ZHU, RICHARD Z	

ART UNIT	PAPER NUMBER
2625	

NOTIFICATION DATE	DELIVERY MODE
02/22/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction27074@oliff.com
jarmstrong@oliff.com

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/758099
Filing Date: January 16, 2004
Appellant(s): Butterfield, Paul M.
Gwaltney, Mark A.
Sulenski, Timonthy J.

James A. Oliff
Daniel A. Tanner
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 03/03/2009 appealing from the Office action mailed 10/20/2008.

1. Real Party in Interest:

A statement identifying by name the real party in interest is contained in the brief.

2. Related Appeals and Interferences:

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or having a bearing on the board's decision in the pending appeal.

3. Status of Claims:

The statement of the status of claims contained in the brief is correct.

4. Status of Amendments After Final:

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

5. Summary of Claimed Subject Matter:

The summary of claimed subject matter contained in the brief appears to be correct.

6. Grounds of Rejection to be Reviewed on Appeal:

Claims 1-9 and 14-20 are rejected under 35 USC 103 (a) as being unpatentable over ***Klassen (US 6345117 B2)*** in view of ***Decker (US 6198549 B1)*** and ***Castelli et al. (US 5748221 A)***.

Claims 10-13 are rejected under 35 USC 103 (a) as being unpatentable over the combined teachings of ***Klassen (US 6345117 B2)*** in view of ***Decker (US 6198549 B1)*** and ***Castelli et al. (US 5748221 A)*** further in view of what is well known.

7. Claims Appendix:

The copy of the appealed claims contained in the Appendix to the brief appears to be correct.

8. Evidence Relied Upon:

5,748,221	Castelli et al.	05-1998
6,198,549	Decker.	03-2001
6,345,117	Klassen	02-2002

9. Grounds of Rejection:

The following ground(s) of rejection are applicable to the appealed claims:

- Claims 1-9 and 14-20 are rejected under 35 USC 103 (a) as being unpatentable over ***Klassen (US 6345117 B2)*** in view of ***Decker (US 6198549 B1)*** and ***Castelli et al. (US 5748221 A)***.

Regarding Claim 1, ***Klassen*** discloses a method for detecting color misregistration in an image forming system comprising (**Abstract, detecting and trapping color misregistration and see Fig 3**):

forming a registration image with the image forming system (**Col 10, Rows 42-62, forming a digital representation of a scanned input image**);

calculating or selecting a combined color value (**Col 11-12, Table 1, in particular, the Boolean combination of cyan and magenta "1100", "1101", "1110" and "1111"**);

performing spectrophotometric analysis on the registration patch to detect a detected color value (**Col 10, Rows 41-48, common color scanner 10, see Fig 3 for detecting input colors a and b, see Col 11, Rows 40-50**);

determining if color misregistration has occurred (**Col 14, Rows 1-14, comparing the maximum of a visibility vector with a threshold to determine whether misregistration occurs**) by comparing the detected color value with the combined color value (**Col 13, Row 66- Col 14, Row 2, said visibility vector is constructed from the two colors a and b and the list of misregistration colors or combined color value shown in Table 1. That is, the ΔE that representing the difference or comparison between actual input colors (a, b) and list of misregistration colors being used to construct the visibility vector that is used to determine whether or not misregistration is visible**); and

obtaining a degree of color misregistration based on an amount of color shift between the detected color value and the combined color value that is represented by a ΔE color difference between the detected color value and the combined color value (**Col 13, Rows 1-45, as best understood by the examiner, ΔE, be it standard CIE76, CIE94, or S-CIELab, is used to determine whether misregistration is visible, see Col 13, Rows 8-15 and it appears to play a part in deriving the visibility function made from input colors a and b and the list of misregistration colors shown in Table 1. The degree of misregistration is determined by comparing this derived visibility function to a threshold**);

Klassen does not disclose forming a registration patch with the image forming system and obtaining a degree of color misregistration based on known dimensions of the registration patch.

Decker discloses a method for detecting color misregistration in an image forming system (**Abstract**) comprising:

forming a registration pattern with the image forming system (**Fig 2 and see Col 4, Rows 31-34**);

performing spectrophotometric analysis on the registration patch to detect a detected color value (**Co 8, Rows 20-30, using a densitometer to perform spectrophotometric analysis**).

determining if color misregistration has occurred (**Col 5, Row 62- Col 6, Row 8, Col 7, Rows 5-15, and see Col 8, Rows 20-67, the amount of color misregistration – C1 * (Density Difference)**);

obtaining a degree of color misregistration based on known dimensions of the registration pattern (**Col 5, Rows 20-40**).

Castelli discloses a method or detecting color misregistration in an image forming system (**Col 3, Rows 24-30**) comprising forming a registration patch with registration pattern thereon using the image forming system (**Col 6, Rows 65-67**).

Decker suggested that the dimension of a registration pattern must be such that it is large enough for a spectrophotometer such as a colorimeter of ***Castelli*** or color scanner of ***Klassen*** to have an accurate assessment of the average overall misregistration and small enough for said spectrophotometer's aperture, it would've been obvious to one of ordinary skill in the art at the time of the invention to modify the input image of ***Klassen*** to be printed as registration pattern taught by ***Decker*** on a registration patch taught by ***Castelli*** with a specified dimension large enough to give an accurate assessment of overall misregistration but small enough to fit the aperture of color scanner whereas the motivation would've been to avoid any inaccuracies due to the placement of the aperture of the color scanner within a

repetitive pattern and to avoid inaccuracies due to density variations caused by variations in the paper velocity though a print station (***Decker***, **Col 5, Rows 40-45**).

Regarding Claim 2, ***Klassen*** as modified by ***Decker*** and ***Castelli*** discloses the step of forming a registration patch further comprising steps of:

forming the registration patch in a combination of colors having a composite color value equivalent to the calculated or selected value (***Decker,*** **Col 4, Rows 30-60 and see Col 8, Rows 19-21, colors comprising Cyan, Magenta, Yellow, and Black**).

Regarding Claim 3, ***Klassen*** discloses the method for detecting color misregistration further comprising generating an output signal in response to determining if color misregistration has occurred (**Col 14, Rows 1-14, if the maximum of the visibility function is greater than a predetermined threshold, an output signal indicating visible misregistration is outputted so that a color can be determined and selected for trapping**).

Regarding Claim 4, ***Klassen*** discloses that the output signal indicates whether the image forming system is performing within satisfactory limits (**Col 14, Rows 1-14, if the maximum of the visibility function is less than a predetermined threshold, it is determined that misregistration is not visible and the system is performing satisfactorily**).

Regarding Claims 5, ***Klassen*** as modified by ***Decker*** and ***Castelli*** discloses the method for detecting color misregistration, performing spectrophotometric analysis and the spectrophotometric analysis further comprising:

scanning the registration patch with a spectrophotometric device (***Klassen,* Col 10, Rows 42-62, color scanner 10, *Decker,* Col 8, Rows 24-25, using a densitometer. Said color scanner is modified to scan repetitive patterns**).

Regarding Claims 6, *Klassen* as modified by ***Decker*** and ***Castelli*** discloses wherein the forming a registration patch comprises forming a registration patch which has at least two superimposed colors formed in a line perpendicular to a direction of color misregistration (***Decker,* Fig 2A-B and see Col 4, Rows 52-67**).

Regarding Claim 7, *Klassen* discloses the method for detecting color misregistration further comprising performing an adjustment operation if it is determined that an unacceptable level of color misregistration has occurred (**Col 14, Rows 15-50, see also Col 2, Rows 16-25, using color trapping to correct misregistration**).

Regarding Claim 8, *Klassen* discloses an image forming system capable of detecting and adjusting for color misregistration (**Fig 3**) comprising:

a spectrophotometric device either attached to or integral to the image forming system (**Col 10, Rows 41-48, common color scanner 10, see Fig 3**);

a controller that causes the spectrophotometric device to perform detection of color misregistration (**Fig 3, Image Processing Unit 16 as a software in a digital computer realized as either software embodied in a computer hard drive to be executed by CPU or hardware logic circuitry, see Col 18, Rows 20-35**) base on at least an amount of color shift that is represented by a AE color difference, on at least one registration image by comparing a detected color value of the registration patch that is detected by the

spectrophotometric device to a combined color value of the registration patch that is calculated or selected **(Col 13, Rows 1-45, as best understood by the examiner, ΔE, be it standard CIE76, CIE94, or S-CIELab, is used to determine whether misregistration is visible, see Col 13, Rows 8-15 and it appears to play a part in deriving the visibility function made from input colors a and b and the list of misregistration colors shown in Table 1. The degree of misregistration is determined by comparing this derived visibility function to a threshold)**.

Klassen does not disclose performing detection of color misregistration based on known dimensions of a registration pattern.

Decker discloses a method for detecting color misregistration in an image forming system **(Abstract)** comprising:

forming a registration pattern with the image forming system **(Fig 2 and see Col 4, Rows 31-34)**;

performing spectrophotometric analysis on the registration patch to detect a detected color value **(Co 8, Rows 20-30, using a densitometer to perform spectrophotometric analysis)**.

determining if color misregistration has occurred **(Col 5, Row 62- Col 6, Row 8, Col 7, Rows 5-15, and see Col 8, Rows 20-67, the amount of color misregistration – C1 * (Density Difference))**;

obtaining a degree of color misregistration based on known dimensions of the registration pattern **(Col 5, Rows 20-40)**.

Decker suggested that the dimension of a registration pattern must be such that it is large enough for a spectrophotometer such as a color scanner of ***Klassen*** to have an accurate assessment of the average overall misregistration and small enough for said spectrophotometer's aperture, it would've been obvious to one of ordinary skill in the art at the time of the invention to modify the input image of ***Klassen*** to be printed as registration pattern taught by ***Decker*** with a specified dimension large enough to give an accurate assessment of overall misregistration but small enough to fit the aperture of color scanner whereas the motivation would've been to avoid any inaccuracies due to the placement of the aperture of the color scanner within a repetitive pattern and to avoid inaccuracies due to density variations caused by variations in the paper velocity though a print station (***Decker*****, Col 5, Rows 40-45**).

The combined teachings do not disclose a plurality of image forming stations, each image forming station forming an image in one color and a charge retentive surface which receives each image from its corresponding image forming station and transfers the combined image to a recording medium.

Castelli discloses an image forming system capable of detecting and adjusting for color misregistration comprising:

a plurality of image forming stations, each image forming station forming an image in one color (***Castelli,*** **Fig 6, Development Stations C and D**);

a charge retentive surface which receives each image from its corresponding image forming station and transfers the combined image to a recording medium (***Castelli,*** **Fig. 6, belt 10, and see Col 4, Rows 25-30**);

a spectrophotometric device either attached to or integral to the image forming system (***Castelli,*** **Col 6, Rows 61-64, spectrophotometer connected via neural networks and Col 6, Rows 9-16, the main sensor of the invention is integral to the image forming system**); and

a controller that causes the spectrophotometric device to perform detection of color misregistration on at least one registration patch (***Castelli,*** **Fig. 7, Controller**).

Decker suggested in its background arts that it is well known to form test patterns on patches (**Col 1, Rows 14-28**). Therefore, it would've been obvious to one of ordinary skill in the art at the time of the invention to modify the input image of ***Klassen*** to be printed as registration pattern taught by ***Decker*** on a registration patch taught by ***Castelli*** so as to correctly measure the optical densities of said registration patterns (***Decker,*** **Col 1, Rows 14-28**).

Regarding Claim 9, ***Klassen*** discloses the controller further implements an adjustment to reduce detected misregistration (**Col 14, Rows 36-50, determining out a plurality of candidates, who best implements an adjustment to make misregistration invisible**).

Regarding Claim 14, ***Klassen*** as modified by ***Decker*** and ***Castelli*** discloses the registration patch is formed in a combination of colors having a composite color value

equivalent to the combined color value (***Klassen,*** **Col 13, Row 66 – Col 14, Row 14, the colors comprising any combination of two colors a and b involves a combination of C, M, Y, and K, see Col 14, Rows 20-35**).

Regarding Claims 15 and 16, ***Klassen*** discloses the controller further implements an output signal which indicates the results of the detection of the color misregistration (**Col 14, Rows 1-14, if the maximum of the visibility function is greater than a predetermined threshold, an output signal indicating visible misregistration is outputted so that a color can be determined and selected for trapping**) and output signal indicates whether the image forming system is performing within satisfactory limits (**Col 14, Rows 1-14, if the maximum of the visibility function is less than a predetermined threshold, it is determined that misregistration is not visible and the system is performing satisfactorily**).

Regarding Claim 17, ***Klassen*** as modified by ***Decker*** and ***Castelli*** discloses the method for detecting color misregistration, performing spectrophotometric analysis and the spectrophotometric analysis further comprising:

scanning the registration patch with a spectrophotometric device (***Klassen,*** **Col 10, Rows 42-62, color scanner 10. See also** ***Decker,*** **Col 8, Rows 24-25, using a densitometer**);

and obtaining a degree of color misregistration based on an amount of color shift between the color detected by the spectrophotometric device and the calculated or selected color value (***Klassen,*** **Col 13, Rows 1-45, as best understood by the examiner, ΔE, be it standard CIE76, CIE94, or S-CIELab, is used to determine whether misregistration is**

visible, see Col 13, Rows 8-15 and it appears to play a part in deriving the visibility function made from input colors a and b and the list of misregistration colors shown in Table 1. The degree of misregistration is determined by comparing this derived visibility function to a threshold).

Regarding Claims 18, ***Klassen*** as modified by ***Decker*** and ***Castelli*** discloses wherein the forming a registration patch comprises forming a registration patch which has at least two superimposed colors formed in a line perpendicular to a direction of color misregistration (***Decker,*** **Fig 2A-B and see Col 4, Rows 52-67**).

Regarding Claim 19, ***Klassen*** as modified by ***Decker*** and ***Castelli*** discloses at least one adjustment operation wherein the adjustment operation is able to alter an image forming process of at least one of the plurality of image forming stations if a spectrophotometric analysis indicates color misregistration has occurred (***Klassen,*** **Col 14, Rows 15-50, see also Col 2, Rows 16-25, using color trapping as adjustment operation to correct misregistration**).

Regarding Claim 20, ***Klassen*** discloses an apparatus comprising:

means for forming image digitally **(Col 10, Rows 42-62)**;

means for performing spectrophotometric analysis on the at least one registration image to detect a detected color value **(Fig 3, Image Processing Unit 16 as a software in a digital computer + Color Scanner 110)**;

means for determining if color misregistration has occurred based on the spectrophotometric analysis of the registration image **(Fig 3, Image Processing Unit 16 and see Col 13, Row 66 – Col 14, Row 14)**;

means for adjusting the image forming process to adjust for the color misregistration **(Fig 3, Image Processing Unit 16 as a software in a digital computer + Trapping Processor 18)**;

means for obtaining a degree of color misregistration based on at least an amount of color shift that is represented by a AE color difference, on at least one registration image by comparing a detected color value of the registration patch that is detected by the spectrophotometric device to a combined color value of the registration patch that is calculated or selected **(Col 13, Rows 1-45, as best understood by the examiner, ΔE, be it standard CIE76, CIE94, or S-CIELab, is used to determine whether misregistration is visible, see Col 13, Rows 8-15 and it appears to play a part in deriving the visibility function made from input colors a and b and the list of misregistration colors shown in Table 1. The degree of misregistration is determined by comparing this derived visibility function to a threshold)**.

Klassen does not disclose performing detection of color misregistration based on known dimensions of a registration pattern.

Decker discloses a method for detecting color misregistration in an image forming system **(Abstract)** comprising:

means for forming a registration pattern with the image forming system **(Fig 2 and see Col 4, Rows 31-34)**;

means for performing spectrophotometric analysis on the registration patch to detect a detected color value (**Co 8, Rows 20-30, using a densitometer to perform spectrophotometric analysis**).

means for determining if color misregistration has occurred (**Col 5, Row 62- Col 6, Row 8, Col 7, Rows 5-15, and see Col 8, Rows 20-67, the amount of color misregistration – C1 * (Density Difference)**);

means for obtaining a degree of color misregistration based on known dimensions of the registration pattern (**Col 5, Rows 20-40**).

Decker suggested that the dimension of a registration pattern must be such that it is large enough for a spectrophotometer such as a color scanner of ***Klassen*** to have an accurate assessment of the average overall misregistration and small enough for said spectrophotometer's aperture, it would've been obvious to one of ordinary skill in the art at the time of the invention to modify the input image of ***Klassen*** to be printed as registration pattern taught by ***Decker*** with a specified dimension large enough to give an accurate assessment of overall misregistration but small enough to fit the aperture of color scanner whereas the motivation would've been to avoid any inaccuracies due to the placement of the aperture of the color scanner within a repetitive pattern and to avoid inaccuracies due to density variations caused by variations in the paper velocity though a print station (***Decker*, Col 5, Rows 40-45**).

The combined teachings do not disclose means for forming images by creating at least one registration pattern on a patch.

Castelli discloses an apparatus for detecting color misregistration comprising:

means for forming images (**Col 4, Rows 5-7, an imaging system**);

means for creating at least one registration patch (**Col 6, Rows 65-67, a number of patches**) having a combined color value (**Col 6, Row 67 – Col 7, Row 2, colors are selected to adequately represent the printer's collection of colors, a combination of RGB or CMYK**);

Decker suggested in its background arts that it is well known to form test patterns on patches (**Col 1, Rows 14-28**). Therefore, it would've been obvious to one of ordinary skill in the art at the time of the invention to modify the input image of ***Klassen*** to be printed as registration pattern taught by ***Decker*** on a registration patch taught by ***Castelli*** so as to correctly measure the optical densities of said registration patterns ***(Decker,*** **Col 1, Rows 14-28**).

- Claims 10-13 are rejected under 35 USC 103 (a) as being unpatentable over the combined teachings of ***Klassen (US 6345117 B2)*** in view of ***Decker (US 6198549 B1)*** and ***Castelli et al. (US 5748221 A)*** further in view of what is well known.

Regarding Claims 10-13, the combined teachings do not explicitly disclose that the printing machine is a digital photocopier, an ink jet printer, or a laser printer.

Nonetheless, the cited printing machines are well known species of genus printing machines and it is well within the knowledge of one ordinarily skilled in the art to use the above-mentioned copiers and printers as the image forming system because each of said copiers and printers are qualified to perform superbly in the endeavor of color printing and they are all very well known under the sun (**Official Notice**).

It would've been obvious to one ordinarily skilled in the art at the time of invention to use either a digital photocopier, an ink jet printer, a laser printer, a facsimile machine, or a combination facsimile machine and printer machine as the printing machine of the combined teachings in order to enable the printing of multi-color images from which spectrophotometric analysis can be performed.

10. Response to Arguments:

- **In response to** "No predictability has been shown to making the asserted combination of references" **on Page 17,** "The asserted Combination would impermissibly modify the principle of operation of Klassen" **on Page 19,** "The office action provides no objective evidence to support making the asserted combination" **and** "The asserted basis for combining the applied reference is a mere conclusory statement" **on pages 20-21.**

First and foremost, the concept of printing registration patches with test patterns thereon to calibrate a printer's output is a well known and notoriously implemented method in the art of printer calibration. Evidence of such is demonstrated at least by ***Castelli***. Thus, one of ordinary skill in the art of printer calibration at the time of the invention would've been well acquainted with the concept since at least May of 1998. Therefore, printing registration patches is a notoriously known method and modifying ***Klassen*** to do so would've yielded predictable results.

Second, the operating principle of ***Klassen*** is as follow:

forming a scanned image with a image scanning system **(Col 10, Rows 42-48)**

calculating or selecting a combined color value for a scanned image (**Col 11, Row 51 – Col 12, Row 30 in view of Table I, determine all CMYK combinations between a given pair of input colors to form a LABvector**);

performing spectrophotometric analysis on the scanned image to detect a detected color value (**Col 10, Rows 48-54 and Col 11, Rows 30-50, since image is defined in bitmaps of multiple colors, the scanner detects color values of at least one pair of detected or input color value a and b out of said multiple colors**);

determining if color misregistration has occurred by comparing the detected color value with the combined color value (**Col 13, Row 48 – Col 14, Row 14, "The process than loops through <u>each of the elements</u> (the possible misregistrations) of the LABvector, and <u>computes the difference from a and b</u> for that element" to construct a visibility_vector**);

obtaining a degree of color misregistration based on an amount of color shift between the detected color value and the combined color value that is represented by a delta E color difference between the detected color value and the combined color value (**Col 13, Row 48 - Col 14, Row 14 in view of Col 13, Rows 1-48, the "difference from a and b for that element" cited above is the delta E noted. Here, a degree of misregistration is obtained by comparing visibility_vector with a threshold**).

Therefore, the operating principle of ***Klassen*** is centered around the determination of color misregistration on the basis of a delta E color difference between a detected color value (**input (a, b)**) and a combined color value (**LABvector**) and as long as at least one pair of

input colors (a, b) or two color separations of bitmaps are provided, ***Klassen*** can successfully obtain the degree of color misregistration utilizing its operating principle.

Thus, by modifying ***Klassen*** to print the color test patterns on patches as suggested by ***Castelli*** would not impermissibly modify the operating principles of ***Klassen***.

Third, ***Decker*** suggests "As the printer is printing out the repetitive test pattern, there will be some variation in registration as the paper is moving through the printer station. Therefore, the density readings may not be truly indicative of the average misregistration" (**Col 5, Rows 23-28**).

In ***Klassen***, an entire image is printed on a piece of paper and thereafter scanned by a scanner to perform spectrophotometric analysis and to obtain degree of color misregistration (**Col 10, Rows 43-47**). In light of ***Decker***'s suggestion, one of ordinary skill in the art at the time of the invention would've recognized that this method of generating calibration image to obtain degree of misregistration would have density readings that inaccurately indicate average misregistration because variation in registration is inevitable when printing said overall image on an entirety of a paper. That is, without due regard to the dimension of image document or test patterns and thus test patches (**According to appellant's specification at paragraph 43, dimension of patches are known by knowing the dimension of the test pattern printed thereon; this is so because when test pattern is printed on patch, a test pattern can only be as large as the patch that holds it**), an accurate reading of overall misregistration can not be obtained.

Here, it is immaterial that ***Klassen*** did not recognize this deficiency because one of ordinary skill in the art at the time of the invention would've still recognize it through the

suggestion of ***Decker*** and one would've been motivated to solve the problem using the teachings of ***Castelli*** and ***Decker***: to print calibration images in the form of test patterns on test patches as taught by ***Castelli*** **(printing a test pattern image on a patch smaller than an image document would not have registration variation precisely because it is smaller)**, in known dimensions as taught by ***Decker*** **(Col 5, Rows 38-50)** to thus obtain a degree of delta E color misregistration on said known dimensions that accurately reflects overall color misregistration **(*Decker*, Col 5, Row 62 – Col 6,Row 8)**.

Therefore, it would've been obvious to one of ordinary skill in the art at the time of the invention to predetermine a patch and therefore test pattern of a known dimension so as to obtain an amount or degree of delta E misregistration **(taught by *Klassen*)** on the basis of said dimension as suggested by ***Decker*** **(Col 5, Row 62 - Col 6, Row 8)**. In this manner, a degree of misregistration can be calculated while avoiding any inaccuracies due to the placement of the aperture of the densitometer within the test patterns and to avoid inaccuracies due to density variations caused by variations in paper velocity through the printer **(*Decker*, Col 5, Rows 40-45)**.

In conclusion, the basis for combining the references set forth in the Final Office Action is a conclusory statement supported by objective teachings and suggestions from ***Decker*** and ***Castelli*** which obviously motivates one of ordinary skill in the art at the time of the invention to predictably and definitively modify ***Klassen*** to obtain the same invention as claimed; said basis would not require an impermissible modification of ***Klassen***'s operating principles.

- **In response to** "The asserted Combination would impermissibly modify the principle of operation of Klassen" **on Pages 26 and 33,** "The office action provides no objective evidence to support making the asserted combination" **and** "The asserted basis for combining the applied reference is a mere conclusory statement" **on pages 28-29 and 35-36.**

  See examiner's response in the previous section.

- **In response to** "The conclusion made in the office action may only be reached through the impermissible application of hindsight reasoning" **on page 39.**

  The examiner disagrees. As demonstrated by ***Klassen*** and ***Decker***, obtaining a degree of color misregistration on the basis of comparing a detected color value and combined color value and on the basis of known dimension of test pattern and therefore test patch are well known to one of ordinary skill in the art at the time of the invention. Further, printing out test patterns on test patches has been notoriously known to those familiar with the art of printer calibration. Even if the notoriety of the said known concepts are insufficient in motivating one of ordinary skill in the art to predictably combine the references, ***Decker***'s explicit suggestion nonetheless provides the suggestion and the motivation to predictable combine the references to obtain the claimed invention. That is, if there is any hindsight applied in the Final office action, it is hindsight derived from the disclosure of ***Decker***. Thus, the office action applied permissible hindsight on the basis of teaching, suggestion, and motivation from the combination of ***Klassen, Castelli,*** and ***Decker***.

- **In response to** "The dependent claims would not have been rendered obvious by the applied references for the addition features they recite" **on page 40.**

For the reasons stated in previous sections, ***Klassen, Castelli,*** and ***Decker*** predictably and obviously render claims 1, 8, and 20 unpatentable. Thus, dependent claims are unpatentable as well.

11. Related Proceeding(s) appendix:

No decision rendered by a court or the board is identified by the examiner in the related appeals and interferences section of this examiner's answer.

For the above reasons, the examiner sustains the rejections as set forth in the final rejection.

Respectfully submitted,

Conferee:

/Richard Z. Zhu/
Examiner, Art Unit 2625
02/08/2010

/King Y. Poon/
Supervisory Patent Examiner, Art Unit 2625

/Edward L. Coles/

Supervisory Patent Examiner, Art Unit 2625